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**BIOGRAPHICAL SKETCH**

Provide the following information for the key personnel in the order listed on Form Page 2.  
Photocopy this page or follow this format for each person.

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NAME	POSITION TITLE		
JAYES, Friederike	Research Fellow		
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Justus Liebig Universität Giessen, Germany	DVM	1987	Veterinary Med.
Justus Liebig Universität Giessen, Germany		1987-1988	Reprod. Physiology
North Carolina State University, Raleigh	Ph.D.	1995	Physiology
University of Virginia, Charlottesville		1995-1997	Endocrinology

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list, in chronological order, previous employment, experience, and honors.

**Funding/Employment:**

1988 - 1994 Research and Teaching Assistantship, N.C. State Univ., Dept. of Animal Science  
1995 - 1997 Postdoctoral Endocrine Research Fellow, Univ. of Virginia,  
Neuroendocrinology Training Grant T32-DK07646 (M.A. Shupnik);  
Dept. of Int. Med., Endocrinology Branch, J.D. Veldhuis' Lab., Co-mentor: R.N. Day.  
1997 - 1998 Individual National Research Service Award (NRSA) 1F32-HD08284-01: Role of PKA in FSH-  
driven calcium signaling. Univ. of Virginia.  
1998 - 1999 Berlex Postdoctoral Fellowship, Center for Recombinant Gamete Contraceptive Vaccinogens, Univ.  
of Virginia, Director: J.C. Herr.  
1999 - 2002 Research Associate, Team Leader of the 2-D proteomics lab, Center for Recombinant Gamete  
Contraceptive Vaccinogens, Dept. of Cell Biology, Univ. of Virginia.  
2002 - 2004 Research Fellow, Laboratory of Women's Health, National Institute of Environmental Health  
Sciences (NIEHS), Research Triangle Park, NC.  
2004-present Research Fellow, Laboratory of Reproductive and Developmental Toxicology, Receptor Biology  
Section, NIEHS, Research Triangle Park, NC.

**Honors:**

Graduate Student Award for Outstanding Teaching, North Carolina State University, 1990  
Gamma Sigma Delta Honor Society, 1992 to present  
Annual Physiology Student Symposium, North Carolina State University, Raleigh  
1992: 3rd place oral presentation; 1993: 1st place poster presentation  
Invited Seminar: University of Michigan, Department of Environmental Health Sciences, Environmental  
Toxicology Research Training Program, 2004.

**Professional Memberships:**

American Physiological Society  
Chamber of Veterinarians, NRW, Germany  
Endocrine Society  
Society for the Study of Reproduction

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## **Publications:**

### **Peer Reviewed Journals:**

- Heit, M.C., Williams, P.L., **Jayes, F.L.**, Chang, S.K., and J.E. Riviere 1993. Transdermal iontophoretic peptide delivery: *in vitro* and *in vivo* studies with luteinizing hormone releasing hormone. J. Pharm. Sci., **82**: 240-243.
- Heit, M.C., Monteiro-Riviere, N.A., **Jayes, F.L.**, and J.E. Riviere 1994. Transdermal iontophoretic delivery of luteinizing hormone releasing hormone (LHRH): effect of repeated administration. Pharm. Res., **11**: 1000-1003.
- Jayes, F.C.L.**, Britt, J.H., and K.L. Esbenshade 1997. Role of gonadotropin-releasing hormone pulse frequency in differential regulation of gonadotropins in the gilt. Biol. Reprod., **56**: 1012-1019.
- Garmey, J.C., Schnorr, J.A., Bruns, M.E., Bruns, D.E., Seaner, R.M., Ferguson II, J.E., **Luking Jayes, F.C.**, Aguirre, C., and J.D. Veldhuis 2000. Expression of parathyroid hormone-related peptide (PTH-rp) and its receptor in the porcine ovary: Regulation by transforming growth factor-beta and possible paracrine effects of granulosa cell PTH-rp secretion on theca cells. Biol. Reprod., **62**: 334-339.
- Whaley, S.L., Hedgpeth, V.S., Farin, C.E., Martus, N.S., **Jayes, F.C.L.**, and J.H. Britt 2000. Influence of vitamin A injection before mating on oocyte development, follicular hormones, and ovulation in gilts fed high-energy diets. J. Anim. Sci., **78**: 1598-1607.
- Aguirre, C. \*, **Jayes, F.C.L.** \*, and J. D. Veldhuis 2000. Luteinizing hormone (LH) drives diverse intracellular calcium second messenger signals in isolated porcine ovarian thecal cells: preferential recruitment of intracellular  $Ca^{2+}$  oscillatory cells by higher concentrations of LH. Endocrinology **141**: 2220-2228. (\* authors contributed equally)
- Jayes, F.C.L.**, Day, R.N., Garmey, J.C., Urban, R.J., Zhang, G., and J.D. Veldhuis 2000. Calcium ions positively modulate follicle-stimulating hormone and exogenous 3',5'-adenosine monophosphate-driven transcription of the P450(scc) gene in porcine granulosa cells. Endocrinology, **141**: 2377-2384.
- Turner, R.M., Musse, M.P., Mandal, A., Klotz, K., **Jayes, F.C.**, Herr, J.C., Gerton, G.L., Moss, S.B., and H.E. Chemes 2001. Molecular genetic analysis of two human sperm fibrous sheath proteins, AKAP4 and AKAP3, in men with dysplasia of the fibrous sheath. J Androl. **22**:302-315.
- Flickinger, C.J., Rao, J., Bush, L.A., Sherman, N.E., Oko, R.J., **Jayes, F.C.**, and J.C. Herr 2001. Outer dense fiber proteins are dominant postobstruction autoantigens in adult Lewis rats. Biol Reprod. **64**:1451-1459.
- Shetty, J., Diekman, A.B., **Jayes, F.C.**, Sherman, N.E., Naaby-Hansen, S., Flickinger, C.J., and J.C. Herr 2001. Differential extraction and enrichment of human sperm surface proteins in a proteome: identification of immunocontraceptive candidates. Electrophoresis. **22**:3053-3066.
- Ficarro, S., Chertihin, O., Westbrook, V.A., White, F., **Jayes, F.**, Kalab, P., Marto, J.A., Shabanowitz, J., Herr, J.C., Hunt, D.F., and P.E.Visconti. 2003. Phosphoproteome analysis of capacitated human sperm. Evidence of tyrosine phosphorylation of a kinase-anchoring protein 3 and valosin-containing protein/p97 during capacitation. J Biol Chem. **278**:11579-11589.
- Mandal, A., Klotz, K.L., Shetty, J., **Jayes, F.L.**, Wolkowicz, M.J., Bolling, L.C., Coonrod, S.A., Black, M.B., Diekman, A.B., Haystead, T.A., Flickinger, C.J., and J.C. Herr 2003. SLLP1, a unique, intra-acrosomal, non-bacteriolytic, c lysozyme-like protein of human spermatozoa. Biol Reprod. **68**:1525-1537.
- Wright, P.W., Bolling, L.C., Calvert, M.E., Sarmiento, O.F., Berkeley, E.V., Shea, M.C., Hao, Z., **Jayes, F.C.**, Bush, L.A., Shetty, J., Shore, A.N., Reddi, P.P., Tung, K.S., Samy, E., Allietta, M.M., Sherman, N.E., Herr, J.C., and S.A. Coonrod 2003. ePAD, an oocyte and early embryo-abundant peptidylarginine deiminase-like protein that localizes to egg cytoplasmic sheets. Dev Biol. **256**:73-88.
- Wolkowicz, M.J., Shetty, J., Westbrook, A., Klotz, K., **Jayes, F.**, Mandal, A., Flickinger, C.J., and J.C. Herr 2003. Equatorial segment protein defines a discrete acrosomal subcompartment persisting throughout acrosomal biogenesis. Biol Reprod. **69**:735-745.
- Shetty, J., Wolkowicz, M.J., Digilio, L.C., Klotz, K.L., **Jayes, F.L.**, Diekman, A.B., Westbrook, V.A., Farris, E.M., Hao, Z., Coonrod, S.A., Flickinger, C.J., and J.C. Herr 2003. SAMP14, a novel, acrosomal membrane-associated, glycosylphosphatidylinositol-anchored member of the Ly-6/urokinase-type plasminogen activator receptor superfamily with a role in sperm-egg interaction. J Biol Chem., **278**:30506-30515.
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**Book chapters**

**F.C.L. Jayes**, T. Lovekamp-Swan, and B.J. Davis (2004). Phthalate toxicity in the ovary. In: Hoyer P.B. ed. Ovarian Toxicology. CRC Press LLC, Boca Raton, FL